

Rhode Island School
of Design / STEAM

Attention and Perception



Nature Lab



**How do the details we pay attention to
guide our perception of the world?**

Introduction

Novel representations and diverse perspectives can reveal new insights into complex systems, and can support rich understandings of the world. In this activity, students will identify and analyze the choices artists and scientists make when creating representations of living or non-living natural objects. This process will help students recognize the potential and place for their own articulation of how the world works.

Guiding Questions

- What are some similarities and differences in the ways scientists and artists make choices about what they study?
- How do the ways you take in information affect what you “see” in the world around you?
- How does what you perceive affect the way you look at the whole system of which it is a part?
- How does categorizing organisms based on their physical attributes and original environments yield different knowledge than categorizing them based on observable patterns or hidden structures?

The Critique Process

The following activity is grounded in the practice of art critique. While a critique can take on many different forms, it tends to analyze a work of visual art and draw connections between it and other works and contexts. The feedback an artist receives in a critique gives him or her a greater understanding of how other people perceive the work, and often leads to new insights about process, technique, and subject matter, as well as new directions for future works. It is important to emphasize that in this context, *critiquing is not synonymous with criticizing*, or of expressing disapproval of the work being discussed. Critique is the facilitation of an open, respectful space for examining and sharing, used to help students recognize the decision-making processes that informed their sketches.

After drawing from nature, students will reflect on the process of representing information, then compare their drawings with that of a 16th-century artist. Students will consider what is included and what is excluded, and hypothesize about larger contexts and systems.

Suggested Time

The amount of time devoted to this activity can be easily adjusted—it could be drawn out over the course of a week, with a longer amount of time given for more completed artwork, or the drawings could be simplified, with less time given to extension exercises.

Key Words

Scientific illustration, environment, context, positive space, negative space, composition, critique

Here are some basic guidelines for considering an artwork in different stages:

Observe: Describe the piece in detail as a group. What do you notice? What else do you notice?

Analyze: How is this work similar to other pieces we have looked at? How is it different? What is the point of emphasis in this work?

Interpret: What is the artwork about? What choices did the artist make? Why do you think the artist made these choices? If the artwork has a title, how does it add meaning to the work of art?

Reflect: What does the artist reveal about him or herself and the context in which he or she lives? Do you think the artist was successful in getting a particular meaning across?

PART ONE

1. Begin by finding objects for study. This could unfold in several ways. Students could take a short walk in the neighborhood, stopping to draw any living thing they see along the way. Alternatively, a field trip to an arboretum, a natural history museum, a botanical garden, or a zoo would offer many natural objects for study. You could also purchase specimens from a grocery store, such as purple cabbage, pomegranates, corn, squash, or other fruits or plants. Other options include pets such as fish, companion birds, and other specimens. For this activity, it is helpful to set a limit of no more than three students per specimen so that students have a chance get close and look carefully at an object.

2. Give students plenty of time to sketch their objects. Sketching is a form of drawing—often loose, quick, or timed—in which the artist focuses on capturing information that can be used later. Prompt students to look carefully at the object in front of them and pay attention to details important to them. Provide students with an additional piece of paper to write down questions that come up while they make their sketches.

Come together as a group and ask students to share their drawings. Have them engage in a critique, as detailed above, by observing similarities and differences in what was represented in the drawings, and discussing the decisions the artists made. Students ask questions of their peers about their work and can also use the time to articulate challenges they faced. On the board, create a list of questions that arose as students worked with their objects.

3. Have students work together in groups of five or six, arranging their drawings in categories based on shared characteristics and what each student chose to represent from their specimen. Prompt students to discuss:

- What are some of the shared and different qualities of the drawings?
- Why and how did different artists place emphasis on different aspects of the specimen?
- What can we learn about what is important to the artist in each grouping?



Ray Loturco, RISD BFA.
Detail of observation sketch.



Buttercups, Red Clover, and Plantain

School of Albrecht Dürer

German, 1471–1528

***Buttercups, Red Clover, and Plantain*, 1526**

Watercolor and gouache on vellum

29.7 x 21.8 cm. (11 11/16 x 8 9/16 in.)

Gift of Mrs. Brockholst Smith in memory of her mother,
Jane W. Bradley 38.053

PART TWO

1. Show students the work *Buttercups, Red Clover, and Plantain* by a 16th-century artist associated with Albrecht Dürer (See plate 8).

2. Ask students to describe what they see, then have them discuss the choices the artist appears to have made in terms of composition and content. Have students hypothesize what the goal of the artist's exploration might have been. Engage in a critique of this drawing using the same prompts they used earlier and detailed at the beginning of this activity.

3. To further the conversation, share this with the class:
During the 16th century, European artists began to study and depict the natural world with an emphasis on visually describing what they saw. Nature became a subject for art. This watercolor's creator was a contemporary of Albrecht Dürer, a highly influential German artist and one of the first northern Europeans to paint individual nature studies. Drawing from actual buttercups, red clover, and plantain specimens, the artist carefully delineated the three different species.

4. Ask students to consider *Buttercups, Red Clover, and Plantain* in relation to their own drawings. Prompt students to discuss:

- What are some of the similarities and differences you notice between this work and your own?

- Based on your own experience of drawing from a natural specimen, what can you deduce about the 16th-century artist's ways of working?
- What do you think the artist was trying to find out by drawing?
- What questions may the artist have had about the flowers? How do these questions relate to those you had while drawing?
- Find a photograph of one of these specimens. Is there a difference in the way we perceive information from a drawing versus a photograph?
- What is an objective decision and what is a subjective decision in a drawing?

5. Have students return to their original object selected in Part One and draw it again. Students should be allowed more time than they were given for the sketch. This work should be more developed and finished.

Have students consider their drawings in groups according to the object depicted. The same questions can guide the critique of the second drawings:

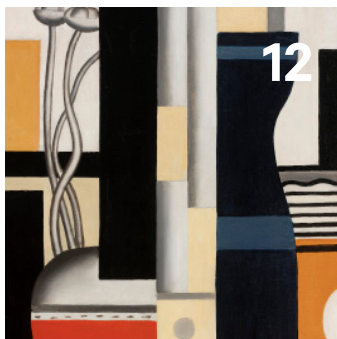
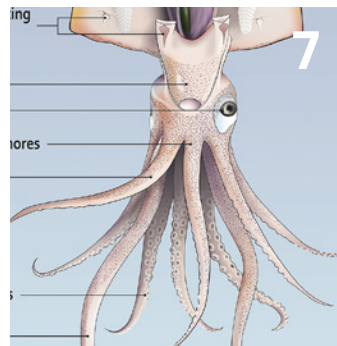
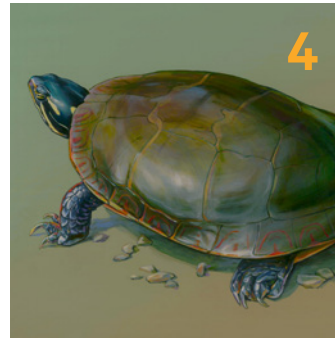
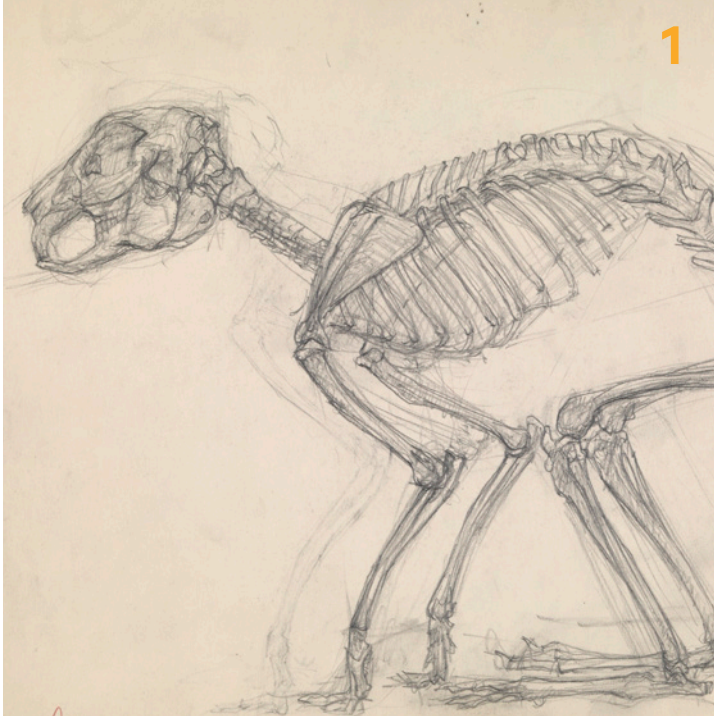
- What are some of the shared and different qualities of the drawings?
- Why and how did different artists place emphasis on different aspects of the specimen?
- What can we learn about what is important to the artist in each grouping?

Further Inquiry

1. Have students make a sketchbook, a small zine, or a portfolio in their science journal. One side of the page can be used for an interpretive/subjective drawing in which students are unbound by the need to represent something as close to reality as possible. You could encourage the students to work in their own style, exploring anything they might like without constraint. The other side is used for a more realistic/objective drawing. As a writing or discussion prompt, encourage students to think about the intended audience or the purpose of a drawing. Some examples of objective and interpretive work that the teacher can utilize for students to analyze and reflect on are provided here. (See plates 1–7 and 9–13)

2. Have students complete two drawings of an object. In one, ask students to draw the whole object, representing what they see. In a second drawing, have students zoom in on one detail. Students could use microscopes or handheld magnifiers to reveal details imperceptible to the unaided eye. Questions to consider: What did you notice as you completed your zoomed-in drawing? Did anything surprise you? What is different about the two drawings? What is the same? Does one reveal more information than the other? Is one more realistic and one more abstract? How does changing your perspective on an object offer opportunities for new ways of seeing that object?

Attention and Perception



Plates

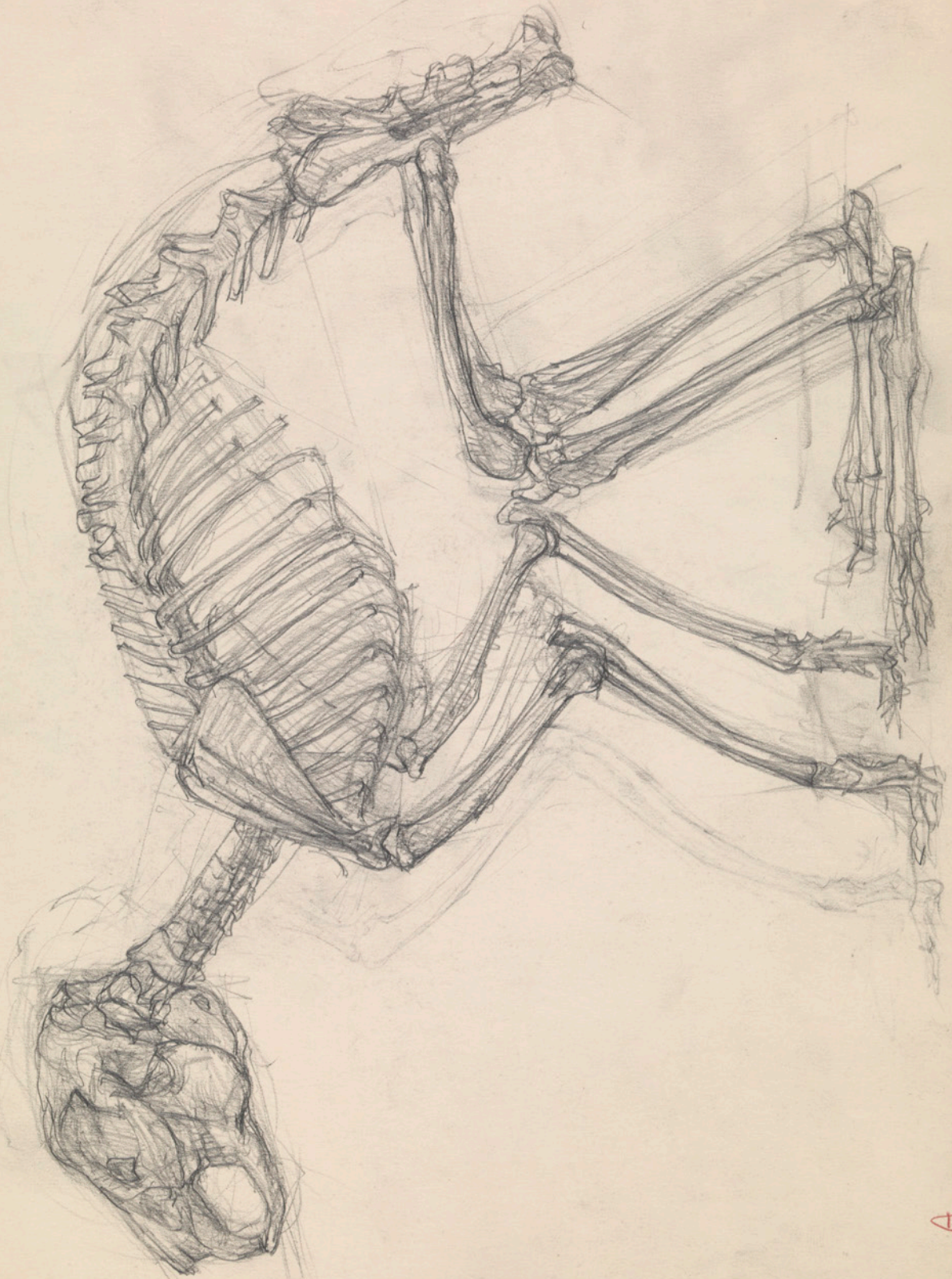
PART ONE

1. **Naotoshi K. Gibson.** *Illustration from student work archive of long-time RISD faculty member Edna Lawrence*
2. **Ray Loturco.** *Illustration from student work archive of long-time RISD faculty member Edna Lawrence*
3. **A. Medeiros.** *Illustration from student work archive of long-time RISD faculty member Edna Lawrence*
4. **Amy Bartlett Wright**
Eastern painted turtle: Chrysemys picta
Acrylic
35.6 x 61 cm (14 x 24 inches)
5. **Kathleen P. Kelly**
Red Alert—Red-bellied woodpecker: Melanerpes carolinus
Watercolor and gouache
28 x 35.6 cm (11 x 14 inches)
6. **Kim Schmidt**
Bumblebee: Bombus impatiens
Acrylic
38.1 x 51 cm (15 x 20 inches)
7. **Meg Sodano**
Internal Anatomy of a Squid
Rendered in Illustrator
Scalable size

PART TWO

8. **School of Albrecht Dürer, German, 1471–1528**
***Buttercups, Red Clover, and Plantain*, 1526**
Watercolor and gouache on vellum
29.7 x 21.8 cm (11 11/16 x 8 9/16 inches)
Gift of Mrs. Brockholst Smith in memory of her mother, Jane W. Bradley 38.053
9. **Ann Dexter, American, 1789–1874**
Helen Tabor Swift
Nancy Bryant Foster
***Coverlet*, 1815 and 1900**
Linen plain weave with wool embroidery
Length: 229.2 cm (90 1/4 inches)
Gift of Edith N. Rathbun 2000.106.2
10. **Ilonka Karasz, designer, American, 1896–1981**
Leshner-Whitman Co., manufacturer
1852–1930s
***Oak Leaf*, 1928**
Mohair wool; plain weave, screen print
Length: 130.2 cm (51 1/4 inches)
Mary B. Jackson Fund 2001.70.5
11. **Duncan Grant, designer, British, 1885–1978**
Allan Walton Fabrics, manufacturer, English
***Flowers and Leaves*, 1936**
Cotton; cut warp pile, hand screenprinted
Length: 279.4 cm (110 inches)
Mary B. Jackson Fund 1993.024
12. **Fernand Léger, French, 1881–1955**
***Flowers*, 1926**
Oil on canvas
92.2 x 65.4 cm (36 5/16 x 25 3/4 inches)
Anonymous gift 81.097
13. **Claude Monet, French, 1840–1926**
***The Basin at Argenteuil*, 1874**
Oil on canvas
55.2 x 74.3 cm (21 3/4 x 29 1/4 inches)
Gift of Mrs. Murray S. Danforth 42.219

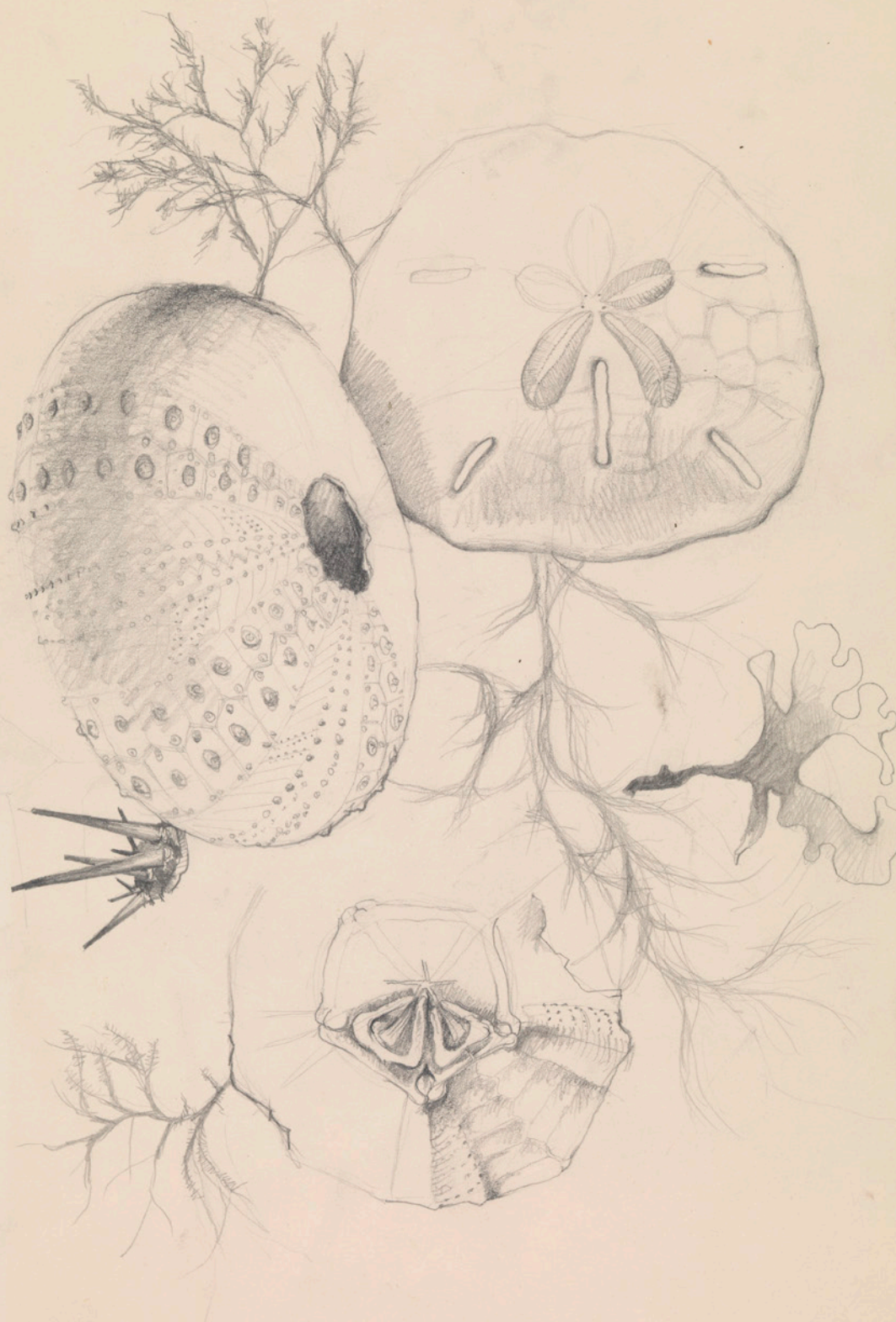
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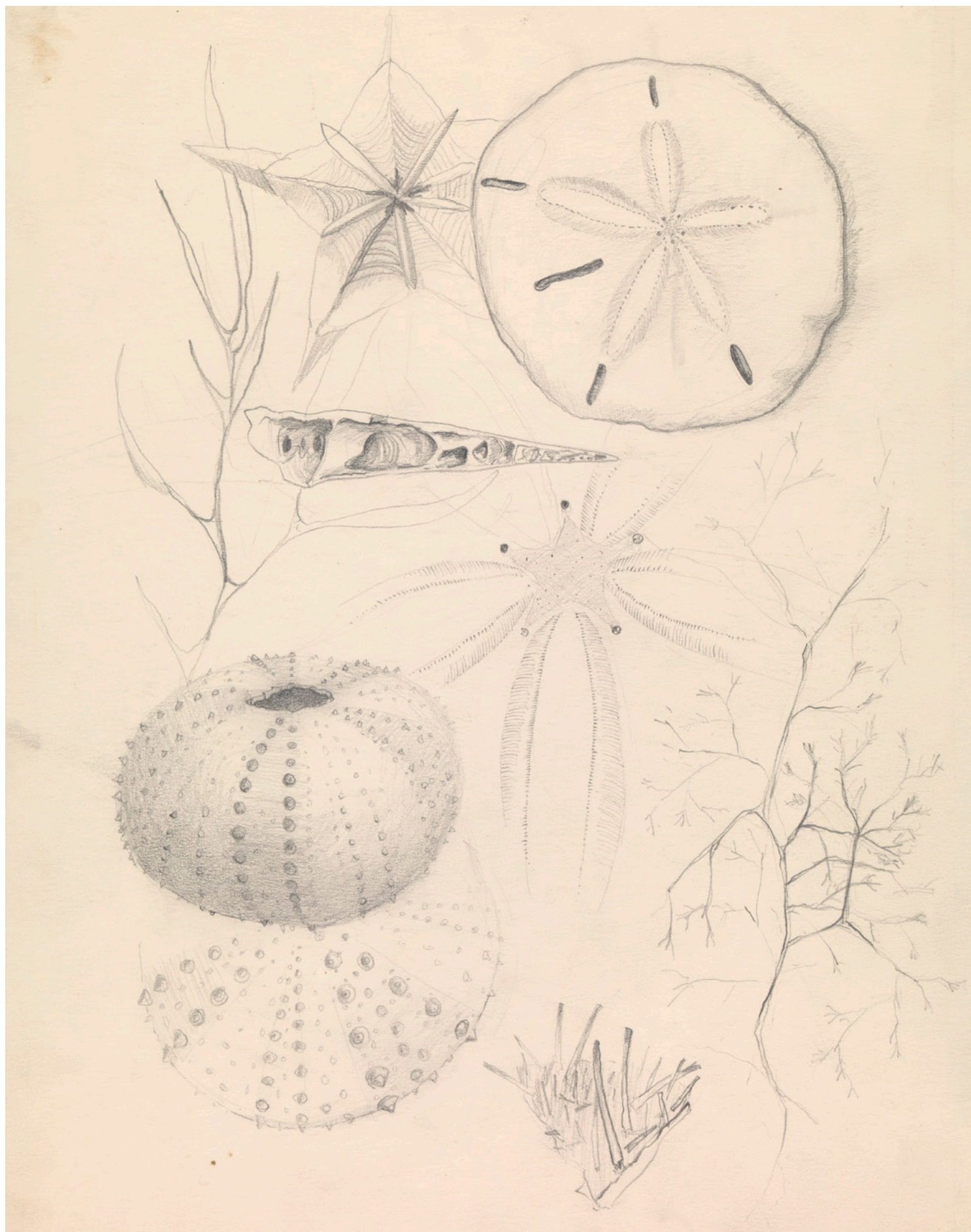


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Lambert
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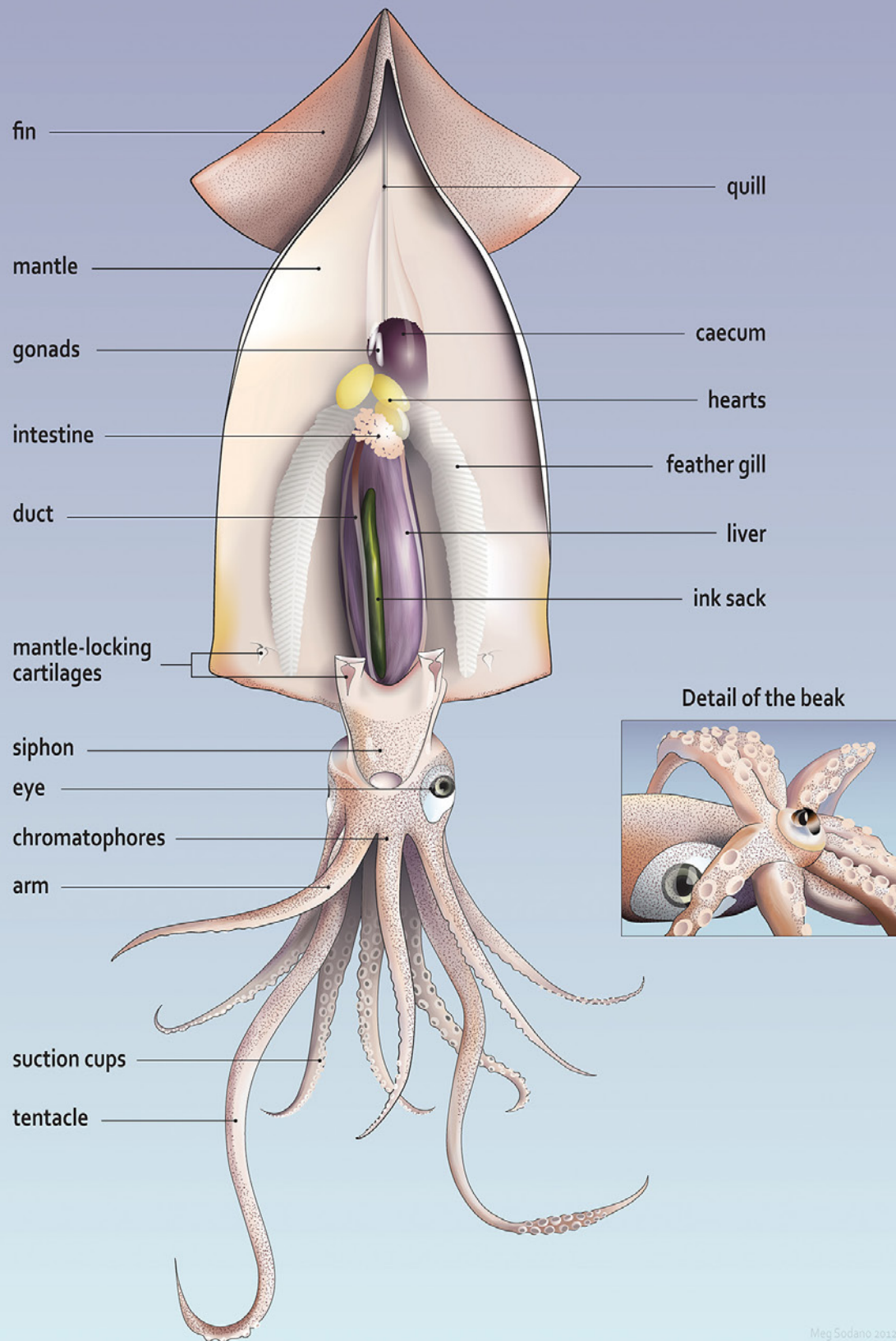








Internal Anatomy of a Squid















Rhode Island School of Design / STEAM was developed collaboratively with Tracie Costantino, associate dean of faculty; Neal Overstrom, director, Nature Lab; Sarah Ganz Blythe, deputy director of exhibitions, education and programming, RISD Museum; Mariani Lefas-Tetenes, educator for school and teacher programs, RISD Museum; Melita Morales, EPSCoR | STEAM communications and engagement coordinator, Nature Lab; and Rachel Atlas, collections specialist, Nature Lab.

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